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EXAMINER

OCAMPO, MARIANNE S

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1723

13

DATE MAILED: 03/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/446,523

Applicant(s)

ALTMAYER ET AL.

Examiner

Marianne S. Ocampo

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10 – 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shucosky et al. (US 5,855,783) in view of Domnick (US 3,460,680).

3. With respect to claim 10, Shucosky et al. disclose a filter element (10, 20) comprising a fluid permeable supporting pipe (core, 14), a filter (membrane, 20) folded into a cylindrical shape and wrapped around the supporting pipe (14) to surround the pipe (14), a plastic filter casing (cage, 16) with openings enclosing the filter (20) and delimitating a filter chamber and two end caps (12, 18) connected to the filter casing (16). Shucosky et al. fail to disclose the filter casing being formed from a flat blank with opposite ends thereof bent toward one another and joined together by a sealing seam and the filter being a *mat filter* (defined by the examiner as any woven fibrous filter) and having an exterior diameter larger than the interior diameter of the filter

casing and one axial end of the mat filter is conical to facilitate introduction thereof in the filter casing. Domnick teaches a filter element, similar to that of Shucosky et al, in that the filter element of Domnick comprises a fluid permeable supporting pipe (11), a mat filter (22, 21) folded into a cylindrical shape and covered around the supporting pipe (11) and a plastic filter casing (10) which is formed from a flat blank (sheet of plastic material) with opposite ends (edges) thereof bent toward one another and joined together by a sealing seam (by welding or suitable means), as in cols. 2 - 3. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the filter element of Shucosky et al. by adding the embodiments taught by Domnick, in order to provide an effective filter element which is formed of alternative materials of construction and has the ability to remove very fine particulates and undesirable contaminants such as bacteria and viruses. Although Shucosky et al, as modified by Domnick, fail to disclose the filter element being formed such that it would have an exterior diameter larger than the interior diameter of the filter casing and one axial end of the mat filter being conical to facilitate introduction thereof in the filter casing, it is considered that the filter element of Shucosky et al, as modified by Domnick, is an obvious modification, if not, the same filter element being claimed as the invention. The process of forming the filter element of the prior art (Shucosky et al. and Domnick) differs slightly from the method of forming the claimed filter element/invention, however, both products or the end result (of the processes of forming such filter elements) which is a cylindrical mat filter element, is the same. Claim 10 is an example of a product by process claim. The patentability of a product by process claim is based upon the product itself, even though the claim is limited and defined by process, and therefore, the product

Art Unit: 1723

in such a claim is unpatentable if it is the same as, or obvious from the product of the prior art, even if the product of the prior art had been made by a different process. See *In re Thorpe, et al.*, No. 85-1913 (11-21-85) 227 USPQ pages 964 – 966. Furthermore, the conical shape of the mat filter as soon as it has been enclosed by the filter casing gets canceled out, and therefore, in the end, the same cylindrical filter element as the prior art becomes the end product.

4. Regarding claims 11 – 13, these claims are also considered product by process claims. Here, the claimed invention, particularly that of the filter casing has its ends thereof joined by heat sealing according to claim 11, alternatively by using a heating element as in claim 12, or by an ultrasonic weld as in claim 13. Domnick further teaches the ends of the filter casing (10), particular when it is formed of a plastic material, are joined by (ultrasonic) welding (claim 13) or any suitable securing means (which could be other alternative sealing methods such as fusion welding or heat sealing or using a heating element to melt the ends together and fusing them together). Here, the examiner has considered the same filter element if not an obvious modification of the claimed invention is taught by the prior art, no matter how the product was made. In other words, the patentability of a product by process claim is based upon the product itself, even though the claim is limited and defined by process (i.e. process of sealing the ends of the filter casing) and therefore, the product in such a claim is unpatentable if it is the same as, or obvious from the product of the prior art, even if the product of the prior art had been made by a different process. See *In re Thorpe, et al.*, No. 85-1913 (11-21-85) 227 USPQ pages 964 – 966.

5. Concerning claim 14, Shucosky et al. further disclose the filter element (20) being pleated and comprising of plastic material, in the form of PTFE (polytetrafluoroethylene) and having an additional filter fold with a flush arrangement of the filter edges on one another allowing the edges to be tightly joined, as in fig. 2 - 3B and cols. 3 - 5.

6. Regarding claims 15 - 16, once again, these claims are considered product by process claims. Here, the claimed invention differs from the prior art in that the filter edges of the pleated filter are joined by an ultrasonic weld (as in claim 15). Shucosky et al. teaches the edges of the pleated filter (20) being joined by a hot melt adhesive, otherwise a heat seal (claim 16), as in col. 5, lines 1 - 4. It is considered obvious to one of ordinary skill in the art that there are many different ways of forming a seal for joining the edges of the filter element including those of heat sealing and ultrasonic welding, and it is a matter of choice of the manufacturer to select which method would be most effective or efficient for his specific product. Nevertheless, the same product, if not, an obvious modification of the claimed invention results from the teachings of the prior art. See *In re Thorpe, et al.*, No. 85-1913 (11-21-85) 227 USPQ pages 964 - 966. It is considered obvious to one of ordinary skill in the art to use ultrasonic welding methods in lieu of the heat seals for sealing the ends/edges of the filter element, in order to provide an effective and strong seal which does not require additional material costs for making the heat seals.

7. Claims 17 - 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shucosky et al. and Domnick, as applied to claim 10 above, and further in view of "UN

Environment Programme, Technical Guidelines for Identification and Environmentally Sound Management of Plastic Waste and its disposal".

8. With regards to claim 17, Shucosky et al. also disclose the filter casing being formed of thermoplastic fluoropolymer, as in col. 4, lines 54 – 55, which is generally known to be recyclable plastic material. UN Environment Programme article, Technical Guidelines for Identification and Environmentally Sound Management of Plastic Waste and its disposal, page 11, paragraph 4", states that fluoropolymers are recyclable plastics. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the material of construction of the filter casing to be that of a recyclable plastic material, in order to provide a filter element which is not only more durable compared to its paper counterparts, and non-corrosive compared to its metallic counterparts, but also is environmentally friendly.

9. Concerning claim 18, Shucosky et al. further disclose the end caps (12, 18) also consisting of thermoplastic fluoropolymer, as in col. 4, lines 57 – 59, which is generally known to be recyclable plastic material. UN Environment Programme article, Technical Guidelines for Identification and Environmentally Sound Management of Plastic Waste and its disposal, page 11, paragraph 4", states that fluoropolymers are recyclable plastics. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the material of construction of the end caps to be that of a recyclable plastic material, in order to provide a filter element

which has more durable end caps compared to its paper counterparts, and non-corrosive compared to its metallic counterparts, but also is environmentally friendly.

10. With respect to claims 19 - 20, Shucosky et al. also disclose the supporting pipe (14) being formed thermoplastic fluoropolymer, as in col. 4, lines 52 - 53, which is generally known to be recyclable plastic material. UN Environment Programme article, Technical Guidelines for Identification and Environmentally Sound Management of Plastic Waste and its disposal, page 11, paragraph 4", states that fluoropolymers are recyclable plastics. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the material of construction of the supporting pipe to be that of a recyclable plastic material, in order to provide a filter element which has more durable supporting pipe compared to those formed of paper or cardboard, and non-corrosive compared to its metallic counterparts, but also is environmentally friendly.

11. Regarding claim 21, Shucosky et al., as modified by Domnick, have taught there are openings (holes) in the plastic filter casing, as in figs. 1 - 2 of Shucosky et al. Although Shucosky et al as modified by Domnick, do not disclose how the openings/holes were formed, it is considered obvious that the product of the prior art (Shucosky et al. as modified by Domnick) is the same, or at least an obvious modification of the claimed invention. This claim is also a product by process claim. Here, the examiner has considered the same filter element if not an

obvious modification of the claimed invention is taught by the prior art, no matter how the product was made. In other words, the patentability of a product by process claim is based upon the product itself, eventhough the claim is limited and defined by process (i.e. process of forming the openings of the filter casing which is by punching out devices) and therefore, the product in such a claim is unpatentable if it is the same as, or obvious from the product of the prior art, even if the product of the prior art had been made by a different process. See *In re Thorpe, et al.*, No. 85-1913 (11-21-85) 227 USPQ pages 964 – 966.

12. With regards to claim 22, although Shucosky et al. disclose the openings being rectangular or of square shape and not circular (as in claim 22), it is considered a prima facie case of obviousness exists when there is no persuasive evidence that the particular shape of the openings of the filter casing being significant and that the shape of the openings could be circular or rectangular, as a matter of design choice of the manufacturer. See *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

13. Claims 21 – 22 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Shucosky et al and Domnick, as applied to claim 10 above, and further in view of Miller (US 4,977,958).

14. With respect to claim 21, Shucosky et al as modified by Domnick, fail to teach the openings of the plastic filter casing being formed by punching out devices. However, this

Art Unit: 1723

process of forming openings (i.e. using punching out devices) are well known in the art. Miller teaches a filter element having plastic filter casing (90) having openings (holes or slots) therethrough formed by punching out or drilling devices, as in col. 5, lines 30 – 46 and figs. 9 – 10. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the filter casing of Shucosky et al as modified by Domnick, by substituting it with a filter casing formed by the process taught by Miller, to provide an alternative perforated plastic filter casing formed of a different process.

15. Regarding claim 22, Miller further teaches the openings being round or circular, as in col. 5 and fig. 9. It is considered obvious to one of ordinary skill in the art to modify the shape of the openings of the filter casing, depending upon the design choice of the manufacturer, as well as the size of contaminants or undesirable constituents to be removed by the filter element (see Miller, col. 4, lines 25 – 31 and col. 5, lines 36 - 39 for specific reasons for desired shapes of the openings in the casing).

16. Claims 23 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shucosky et al and Domnick, as applied to claim 10 above, and further in view of Yotsumoto (US 3,560,131).

17. Concerning claim 23, Shucosky et al as modified by Domnick, fail to teach the sealing seam comprising intermittent contact points of the ends of the filter casing. Yotsumoto

Art Unit: 1723

teaches a filter element, similar to that of Shucosky et al and Domnick, having a fluid permeable supporting pipe (5), a pleated filter (4) surrounding the pipe (5) and a filter casing whose ends are joined by a sealing seam (7), in which the sealing seam (7) comprises intermittent contact points of the ends of the filter casing, as in figs. 1 - 2. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the sealing seam of the filter element of Shucosky et al, as modified by Domnick, by adding the embodiment taught by Yotsumoto, in order to provide an alternative design for a sealing seal which provides an effective (leak proof) and more stable (stronger) seal between the ends of the filter casing.

18. With respect to claim 24, Yotsumoto further teaches the sealing seam (7) comprising overlapping area of the ends of the filter casing (1), as in figs. 1 - 2. The same motivation applied in previous paragraph 13 applies here.

Response to Amendments and Arguments

19. Applicant's arguments with respect to claims 10 - 24 have been considered but are moot in view of the new grounds of rejection. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

20. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne S. Ocampo whose telephone number is (703) 305-1039. The examiner can normally be reached on Mondays to Fridays from 8:00 A.M. to 4:30 P.M..

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (703) 308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

23. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Application/Control Number: 09/446,523

Page 12

Art Unit: 1723

M.S.O.

March 11, 2002

M. Savage
MATTHEW O. SAVAGE
PRIMARY EXAMINER